

-3- (WPAT)  
AN - 92-111753/14  
XRAM- C92-052330  
TI - Treatment of ammonium nitrate-contg. waste water - comprises  
pyrolysing under specified conditions, then wet oxidising  
DC - C04 C07 D15  
PA - (OSAG ) OSAKA GAS CO LTD  
PR - 90.06.22 90JP-165113  
NUM - 1 patent(s) 1 country(s)  
PN -- JP04059094 A 92.02.25 \* (9214) 11p  
AP -- 90JP-165113 90.06.22  
IC2 - C02F-001/74 C02F-009/00  
AB - JP4059094 A

*Translation of Claims*

## Japan Public Patent Disclosure Bulletin No. 4-59094

## Claims:

(1) A method of treating waste water containing ammonium nitrate, characterized in that waste water containing ammonium nitrate is treated by wet thermal decomposition at a pH of approximately 1-11.5 and a temperature of 100-370°C, in the presence of a supported catalyst the active ingredient of which consists of at least one member of a group comprising noble metals, their insoluble or hardly-soluble compounds, and base metals, and with no oxygen present, after which the treated liquid is treated by wet oxidation at a pH of approximately 1-11.5 and a temperature of 100-370°C, in the presence of a supported catalyst the active ingredient of which consists of at least one member of a group comprising noble metals, their insoluble or hardly-soluble compounds, and base metals, and in the presence of a gas containing oxygen at 1-1.5 times the theoretical quantity of oxygen needed to decompose the ammonia, organic substances, and inorganic substances in the treated liquid.

(2) A method of treating waste water containing ammonium nitrate, characterized in that waste water containing ammonium nitrate with ammonia added in order to satisfy the condition  $0.1 < \text{NH}_3\text{-N}/\text{NO}_3\text{-N} \leq 2$  (molar ratio) is treated by wet thermal decomposition at a pH of approximately 1-11.5 and a temperature of 100-370°C, in the presence of a supported catalyst the active ingredient of which consists of at least one member of a group comprising noble metals, their insoluble or hardly-soluble compounds, and base metals, and with no oxygen present, after which the treated liquid is treated by wet oxidation at a pH of approximately 1-11.5 and a temperature of 100-370°C, in the presence of a supported catalyst the active ingredient of which consists of at least one member of a group comprising noble metals, their insoluble or hardly-soluble compounds, and base metals, and in the presence of a gas containing oxygen at 1-1.5 times the theoretical quantity of oxygen needed to decompose the ammonia, organic substances, and inorganic substances in the treated liquid.

(3) A method of treating waste water containing ammonium nitrate, characterized in that waste water containing ammonium nitrate with at least one acid or acid product added is treated by wet thermal decomposition at a pH of approximately 1-11.5 and a temperature of 100-370°C, in the presence of a supported catalyst the active ingredient of which consists of at least one member of a group comprising noble metals, their insoluble or hardly-soluble compounds, and base metals, and with essentially no oxygen present, after which the treated liquid is treated by wet oxidation at a pH of approximately 1-11.5 and a temperature of 100-370°C, in the presence of a supported catalyst the active ingredient of which consists of at least one member of a group comprising noble metals, their insoluble or hardly-soluble compounds, and base metals, and in the presence of a gas containing oxygen at 1-1.5 times the theoretical quantity of oxygen needed to decompose the ammonia, organic substances, and inorganic substances in the treated liquid.

(4) A method of treating waste water containing ammonium nitrate, characterized in that waste water containing ammonium nitrate with ammonia added in order to satisfy the condition  $0.1 < \text{NH}_3\text{-N}/\text{NO}_3\text{-N} \leq 2$  (molar ratio), and at least one acid or acid product added, is treated by wet thermal decomposition at a pH of approximately 1-11.5 and a temperature of 100-370°C, in the presence of a supported catalyst the active ingredient

of which consists of at least one member of a group comprising noble metals, their insoluble or hardly-soluble compounds, and base metals, and with essentially no oxygen present, after which the treated liquid is treated by wet oxidation at a pH of approximately 1-11.5 and a temperature of 100-370°C, in the presence of a supported catalyst the active ingredient of which consists of at least one member of a group comprising noble metals, their insoluble or hardly-soluble compounds, and base metals, and in the presence of a gas containing oxygen at 1-1.5 times the theoretical quantity of oxygen needed to decompose the ammonia, organic substances, and inorganic substances in the treated liquid.